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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,838	01/30/2004	Norio Yabe	1341.1178	4577

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
WOODS, ERIC V	
ART UNIT	**PAPER NUMBER**
2628	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/766,838	YABE ET AL.	
	Examiner	Art Unit	
	Eric Woods	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 December 2006 and 12 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2.12.2007 has been entered.

Response to Arguments

With respect to the claim amendments and Remarks filed 12.26.2006 entered with RCE filed on 2.12.2007, certain changes in rejected status have occurred as below.

Claim 7 was canceled.

The rejection of claims 1-12 under 35 USC 112, second paragraph, stands withdrawn in view of applicant's amendments to the claims.

The rejection of claims 1, 6-7, and 12 under 35 USC 102(e) and claims 2-5 and 8-11 under 35 USC 103(a) in view of the Okude reference stand withdrawn in view of applicant's amendments to the claims.

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

The amendment to the specification on 05/18/2006 merely adds the statement that it contains color drawings and is therefore a matter of form, and thusly raises no issues.

Any objections to the specification for the color drawings paragraph stands withdrawn in view of the granting of the petition under 37 C.F.R. 1.84(a)(2) filed May 18, 2006, granted 03/02/2007.

It is respectfully noted that applicant's amendments will interpreted in the following manner. Applicant voluntarily amended the claim to change the modifier from "or" to "and." That action therefore requires examiner to interpret the claim 1 in the manner set forth by SuperGuide Corp. v. DirecTV Enterprises Inc., 69 USPQ2d 1865 (Fed. Cir. 2004)(CAFC), 1876 specifically (section IV (B)), dictates that the recitation of "at least one of" should be construed as "one or more," and further that when such a recitation modifies a conjunctive list, it applies to each element in the list, such that such list containing the conjunction "and" is **NOT** read as "or," but rather requires that there be at least one of each element in the list (*ibid*, 1876-1878, citing to *N. Telecom*, 215 F.3d at 1295); applicant did not redefine term in specification (e.g. MPEP 2111.01(IV); 2173.05(a); 706.03(d)). There exists no evidence in the prosecution history that applicant has any other intent than for term to have "simple and ordinary meaning." Therefore aforementioned case clearly applies.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 6, and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Barros (US PGPub 2004/0119759 A1) and Okude et al (US 6,587,784 B1).

As to claim 1 and 6,

Barros teaches the following limitations:

A data display device comprising: (Client 10, Figure 1, monitor shown)

-A display control unit that changes an appearance of at least one of the object sets so that the at least one of the object sets is displayed in a distinct appearance based on the weighted value. (Barros clearly teaches that the graphical objects can be highlighted or changed as in [0079-0080, 0086, 0090-0097]).

Barros teaches the following limitation, except for the part noted at the end, which is taught by Okude:

-An appearance property obtaining unit that obtains an appearance property of each of a plurality of object sets that are represented in a same data representation type on a screen, each of the object sets including data objects indicating a type of data, the

appearance property being at least one of a fill area, colors, and a number of data objects in an object set; (Barros teaches an appearance property unit showing a plurality of object sets (layered maps, as in Figure 2b – layers 305-308, Layered Map Set 3a in Figure 3 – plurality object sets shown in map Key 4 in Figure 6a) represented as different symbols – thusly equivalent to a 'same data representation type' on a screen, where the appearance property can be color [0082], that is the system determines the "symbol, pattern, and color" for 'AA' attribute – where if a symbol is opaque or transparent [0090], the effects are calculated and shown, and such items can be highlighted, where the degree of blending is determined by that. Different types of object sets – e.g. terrain features (Figure 6c, hills notation), status of different areas (see Figure 6d) – overlapping areas have different patterns [0092]. Symbols have different sizes based on rating or capacity, such as in Figure 6e, the shown Key. Another good example is Figure 7e, where vegetation type is shown as a function of altitude with the location of the various facilities, again see Key. This therefore teaches the use of a fill area (e.g. different pattern) and color as above.)

Barros fails to teach the appearance property being a number of data objects in an object set. Okude teaches this limitation:

Okude clearly teaches the objects within a map can have their appearance changed based on the number of objects present, e.g. the appearance of a building is shown differently with fewer floors based on the appearance property can clearly represent the **number of floors** and/or similar, as in Figure 11; steps 601a, 602b, 603b,

or in Figure 12, steps 601a, 603c, where that determination is made (or Figure 7) – 10:10-30, 11:5-26, 11:55-12:55, 13:1-14:5, and the like. Clearly, the appearance property can be building height and/or **number of floors**, which clearly are "the number of data objects" and/or the like. See – Figure 10, Figures 13A-13B, and the like, clearly different categories of buildings and rankings exist – navigation landmarks, user-selected groupings and the like as well.

Barros teaches a unit that changes properties (Barros clearly teaches client devices 10 in Figure 1 that are computers, which therefore perform whatever display changes are made based on changed values in the data set, such as highlighting, based on user action or similar), but **Barros fails to expressly teach that the objects are tested for weighted values per se**. Okude teaches:

-A weighting unit that applies a weighted value to each object set based on the appearance property; and (Okude further teaches that CPU 201 in Figure 2 performs the methods embodied in Figures 7, 11, 12, and the like concerning the height checking, where it assigns the weighted value as described in the above cited locations, based on the building height, as described in steps 601a-603c, Figures 7, 10-13b, etc, as explained above, where the comparison is made such that such objects that fail the threshold test as above are rendered differently, such as 12:42-50, 11:65-12:2, 10:10-30, and the like, where the skeleton display of the building is shown, the transparent color, the simple shape, the different type, or the like.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the system of Barros to be able to change the number of objects present to illustrate a data quality, as taught by Okude, because such systems (2:28-3:45, Okude) allow the user to more easily understand of elements of the map having attributes noticeable by a user, such that the appearance property unit alters fill area, colors, and a number of objects to illustrate specific quantities about objects on a map, which would be in keeping with the symbol size notation shown in the key of Barros in Figure 6e, since altering the number of objects makes it easier to comprehend the quantities being depicted, as stated in the cited section of Okude, where obviously changing the color and pattern represent quantities already known to be beneficially varied.

As to claim 12, this is a much broader version of claim 1, where the weighted value is as explained there, and the final appearance is distinct based on the three recited characteristics. Therefore, the rejection to claim 1 is incorporated by reference.

As to claim 2, clearly the system of Barros has each symbol has fill objects represented in a fill data representation type, as explained above, since such symbols have both color and a pattern applied to them. Obviously changing the color of an object is simply one form of highlighting or emphasis.

As to claim 3, clearly Barros teaches in the various Figures already cited data in a "plot data representation type" as in Figure 3a, 6d, 7e, 7f, 9a, and 9b.

Claim 4 is rejected under 35 U.S.C. 103(a) as unpatentable over Barros and Okude in view of Sakomoto et al (US 2005/0052462 A1).

As to claim 4, Barros and Okude do not teach this limitation, but Sakomoto clearly teaches a "line contour object", e.g. the road in Figure 6 and in [0023], where Okude also shows roads but does expressly class them as a different kind of object. Sakomoto teaches that it is well known in the art to vary color of objects on a map to emphasize them and to make them more visible [0023]. Changing the color of an object is equivalent to changing its graphical fill, as the term "fill" is well known in the art to mean filling an object with a color. It would be obvious to apply the techniques of Sakomoto to that of Okude, since Okude applies such to mapping software and directions and is clearly an analogous art, and obviously changing the color of an object is simply one form of highlighting or emphasis, and clearly the maps of Okude could have information added to them in the manner of Okude, where such information is obviously of importance to the user (e.g. the location of construction and traffic) and would clearly be advantageous for the user to have ([0196-0198])., and is presented in a manner that is intuitive and easy for the user to understand. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Sakomoto with Barros/Okude for at least the above reasons

Claim 5 is rejected under 35 U.S.C. 103(a) as unpatentable over Barros and Okude in view of McQuarrie et al (US 6,658,375 B1) and Pearce (US PGPub 2005/0099321 A1).

As to claim 5, Okude and Barros do not expressly teach these limitations. McQuarrie clearly teaches the output of various simulations as being output as a plot output, and further as a vector map overlaid onto a contour plot and a plot diagram generally (Figures 5-8c, and 24:55-25:11), where these are clearly well known forms in which data could be output. Clearly, when a vector plot is overlaid onto a contour plot, it would be desirable that the vector map not occludes the contour map. Next, it is obvious that many types of information, particularly average traffic speeds (e.g. traffic jam information) could be provided in vector format to the user with the direction of traffic being indicated by vector format, where vector data is more intuitive to the user and makes it easier to grasp patterns, where it is known to overlay traffic speed information on roads on a map in for example a navigation unit in an automobile. See Pearce [0053], to provide better information to the user on unsafe or unusual traffic situations and provide more accurate routing information, where vector format would be easier for the user to understand since the views of roads could be obscured by buildings and the like in the system of Okude. Clearly, the system of Pearce provides such data and coloring and overlay on maps, and McQuarrie illustrates and teaches how such data format in vector format is more useful to users and the like. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Okude to: 1) show traffic information as per the Pearce reference in the manner described in overlay format and 2) to show such information in vector format as per the McQuarrie reference.

Claims 8-9 are rejected under 35 USC 103(a) over Barros in view of Okude as applied to claim 3, and further in view of Hiramoto et al (JP 2001-134743, already submitted by applicant).

As to claims 8-9, Barros and Okude do not expressly teach placing the object sets having the larger fill area and/or larger number of plots on the lower layer. However, Hiramoto et al clearly shows in Figure 2 such a teaching, where the larger areas are on the bottom of the graphical rendering layer. This would apply regardless of the nature of quantity being used, e.g. total fill area, larger number of plots, or larger number of lines. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Barros and Okude to place such larger data sets at the bottom so as to avoid occluding the smaller, more important data sets placed on the top layers.

Claim 10 is rejected under 35 U.S.C. 103(a) as unpatentable over Barros and Okude in view of Sakomoto et al (US 2005/0052462 A1) and Hiramoto et al (JP 2001-134743, already submitted by applicant).

As to claim 10, Barros and Okude do not teach this limitation, but Sakomoto clearly teaches a "line contour object", e.g. the road in Figure 6 and in [0023], where Okude also shows roads but does expressly class them as a different kind of object.

Sakomoto teaches that it is well known in the art to vary color of objects on a map to emphasize them and to make them more visible [0023]. Changing the color of an object is equivalent to changing its graphical fill, as the term "fill" is well known in the art to mean filling an object with a color. It would be obvious to apply the techniques of Sakomoto to that of Okude, since Okude applies such to mapping software and directions and is clearly an analogous art, and obviously changing the color of an object is simply one form of highlighting or emphasis, and clearly the maps of Okude could have information added to them in the manner of Okude, where such information is obviously of importance to the user (e.g. the location of construction and traffic) and would clearly be advantageous for the user to have ([0196-0198])., and is presented in a manner that is intuitive and easy for the user to understand. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Sakomoto with Barros/Okude for at least the above reasons

Barros and Okude do not expressly teach placing the object sets having the larger fill area and/or larger number of plots on the lower layer. However, Hiramoto et al clearly shows in Figure 2 such a teaching, where the larger areas are on the bottom of the graphical rendering layer. This would apply regardless of the nature of quantity being used, e.g. total fill area, larger number of plots, or larger number of lines. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Barros and Okude to place such larger data sets at the bottom so as to avoid occluding the smaller, more important data sets placed on the top layers.

Claim 11 is rejected under 35 USC 103(a) as unpatentable over Barros, Okude, Pearce, and McQuarrie as applied to claim 5, and further in view of Tufte (Edward Tufte. "Visualizing Information.") and Dowd et al (US PGPub 2002/0078131).

Barros and Okude and Pearce, and McQuarrie do not expressly teach this limitation, but they do teach map elements as being organized in layers as above.

A PHOSITA would turn to standard textbooks in the art for data organization and information presentation, such as Tufte (Tufte, Edward, "Envisioning Information). Page 53 – "Effective layering of information is often difficult; for every excellent performance, a hundred clunky spectacles arise." Page 60 – "Layering of data, often achieved by felicitous subtraction of weight, enhances representation both of data dimensionality and density on flatland. Usually this involves creating a hierarchy of visual effects, possibly matching an ordering of information content." Page 90 – "What palette of colors should we choose to represent and illuminate information?... A palette of nature's colors helps suppress production of garish and content-empty colorjunk. Local emphasis for data is then given by means of **spot highlights** of strong color woven through the serene background. Edward Imhof develops this theme, with his characteristic mix of cartographic science and art: *Third rule*: Large area background or base-colors should do their work most quietly, allowing the smaller, bright areas to stand out most vividly, if the former are muted, grayish, or neutral ... Strongly muted colors, mixed with gray, provide the best background for the colored theme." Maps use color schema such as on pages 89-92.

Obviously, it is well known to order the layers of data on a map, and to use coloring to emphasize points in a range that are outliers (e.g. **not part of the background data**), which would constitute the above-recited 'number of colors' – that is, it is known from principles of efficient information presentation to show areas having high deviations from the average values in emphasized format and to make them more visible, thusly suggesting that in a layered graph, such objects should be made more visible. It is noted that in Okude, the more important objects to emphasize in marked in ways that are always visible to the user–see Figures 10 and 13A-13B as well as 2:20-3:45.

The technique of emphasizing the important regions from the background is known – Dowd et al (US PGPub 2002/0078131) [0004-0006], where such regions are encoded in a brighter manner or the like [0023-0025], particularly for example a region with a high volume of calls versus the background, etc [0025].

Therefore, in light of the above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the techniques recited by Tufte and illustrated by Dowd to determine the order of the layers in the maps of B in order to facilitate better user understanding of the various layers or categories of buildings that are determined to be different types and change them according to one of the above-stated criteria. Also, it would have been obvious to overlay the various indicators of Barros/Okude/ Pearce and McQuarrie are taken from the rejection to claim 5 above on Okude using the data description techniques in Tufte because they make them easier to understand and comprehend.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Woods whose telephone number is 571-272-7775. The examiner can normally be reached on Flexible Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric Woods

April 30, 2007

ULKA J. CHAUHAN
PRIMARY EXAMINER